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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,185	07/29/2003	Yezdi Dordi	AMAT/2622.D1/CMP/ECP/RKK	9224

44257 7590 05/16/2005

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EXAMINER	
WONG, EDNA	

ART UNIT	PAPER NUMBER
1753	

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/630,185	DORDI ET AL.	
	Examiner	Art Unit	
	Edna Wong	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10-23 and 25-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-23 and 25-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

This is in response to the Amendment dated April 11, 2005. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Arguments

Specification

The disclosure has been objected to because of minor informalities.

The objection to the disclosure has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 112

Claims **3, 5 and 11** have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The rejection of claims 3, 5 and 11 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 102

I. Claims **1-2, 4-5, 8-13, 16 and 17** have been rejected under 35 U.S.C. 102(e) as being anticipated by **Ting et al.** (US Patent No. 6,017,437).

The rejection of claims 1-2, 4-5, 8-13, 16 and 17 under 35 U.S.C. 102(e) as being

anticipated by Ting et al. has been withdrawn in view of Applicants' amendment.

II. Claims **19-21** have been rejected under 35 U.S.C. 102(e) as being anticipated by **Ting et al.** (US Patent No. 6,017,437).

The rejection of claims 19-21 under 35 U.S.C. 102(e) as being anticipated by Ting et al. has been withdrawn in view of Applicants' amendment.

III. Claims **23, 25 and 26** have been rejected under 35 U.S.C. 102(e) as being anticipated by **Ting et al.** (US Patent No. 6,017,437).

The rejection of claims 23, 25 and 26 under 35 U.S.C. 102(e) as being anticipated by Ting et al. has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 103

I. Claims **3, 7, 14-15 and 18** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Ting et al.** (US Patent No. 6,017,437) as applied to claims 1-2, 4-5, 8-13, 16 and 17 above.

The rejection of claims 3, 7, 14-15 and 18 under 35 U.S.C. 103(a) as being unpatentable over Ting et al. as applied to claims 1-2, 4-5, 8-13, 16 and 17 above has been withdrawn in view of Applicants' amendment.

II. Claim **6** has been rejected under 35 U.S.C. 103(a) as being unpatentable over

Ting et al. (US Patent No. 6,017,437) as applied to claims 1-2, 4-5, 8-13, 16 and 17 above, and further in view of **JP 2-217428**.

The rejection of claim 6 under 35 U.S.C. 103(a) as being unpatentable over Ting et al. as applied to claims 1-2, 4-5, 8-13, 16 and 17 above, and further in view of JP 2-217428 has been withdrawn in view of Applicants' amendment.

III. Claim **22** has been rejected under 35 U.S.C. 103(a) as being unpatentable over **Ting et al.** (US Patent No. 6,017,437) as applied to claims 19-21 above.

The rejection of claim 22 under 35 U.S.C. 103(a) as being unpatentable over Ting et al. as applied to claims 19-21 above has been withdrawn in view of Applicants' amendment.

IV. Claim **24** has been rejected under 35 U.S.C. 103(a) as being unpatentable over **Ting et al.** (US Patent No. 6,017,437) as applied to claims 23, 25 and 26 above.

The rejection of claim 24 under 35 U.S.C. 103(a) as being unpatentable over Ting et al. as applied to claims 23, 25 and 26 above has been withdrawn in view of Applicants' amendment.

V. Claim **27** has been rejected under 35 U.S.C. 103(a) as being unpatentable over **Ting et al.** (US Patent No. 6,017,437) as applied to claims 23, 25 and 26 above, and further in view of **JP 2-217428**.

The rejection of claim 27 under 35 U.S.C. 103(a) as being unpatentable over Ting et al. as applied to claims 23, 25 and 26 above, and further in view of JP 2-217428 has been withdrawn in view of Applicants' amendment.

Response to Amendment

Drawings

The drawings were received on April 11, 2005. These drawings are approved by the Examiner.

Claim Rejections - 35 USC § 112

I. Claims **1-8 and 10-22** are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for *electroplating*, does not reasonably provide enablement for *electroless plating*. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

Applicants' specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to carry out an electroless plating method.

II. Claims **19-22 and 27-28** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

Claim 19

line 8, "the electroplating solution" lacks antecedent basis.

line 8, "the plating process" lacks antecedent basis. Is this the same as the method of plating recited in claim 19, line 1?

line 14, "the rinsing solution" lacks antecedent basis.

Claim 21

lines 1-2, is the "draining the plating solution" the same as the capturing the electroplating solution recited in claim 19, line 8?

line 2, is "a plating solution reservoir" the same as the first fluid receiving member recited in claim 19, lines 8-9?

Claim 22

lines 1-2, is the "draining the rinse agent" the same as the capturing the rinsing solution recited in claim 19, line 14?

line 2, is "a rinse drain" the same as the second fluid receiving member recited in

claim 19, lines 14?

Claim 27

lines 1-2, the relationship is unclear between the electroplating solution and the plating solution recited in claim 23, line 10.

Claim 28

line 4, it appears that "a metal" is the same as that recited in claim 19, line 1. However, it is unclear if it is.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

I. Claims **1-5, 7-8 and 10-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ting et al.** (US Patent No. 6,017,437) in combination with **Wang** (US Patent No. 6,391,166 B1).

Ting teaches a method for plating a metal onto a substrate plating surface, comprising:

(a) holding a substrate **35** with the substrate plating surface face-up on a

rotatable substrate support member **13** having means for holding **44** and rotating **17** the substrate during a plating process (col. 5, lines 14-17; and Fig. 5);

(b) flowing a plating solution **38** onto the substrate plating surface (col. 6, lines 59-62; and Fig. 7).

The holding the substrate comprises providing a vacuum **44** (= a vacuum line) between the substrate support member and the substrate (col. 4, lines 38-44; and Figs. 5 and 6).

The method further comprises:

(a) positioning an anode **14** above the substrate plating surface and in electrical communication with the plating solution (col. 6, lines 59-62; and Fig. 7);

(b) positioning a cathode contact ring **15** (= four electrodes spaced equidistantly *around* the bottom end of the sleeve **12**) in electrical contact with the plating surface (= one end to make contact with the edge of the wafer **35**) [col. 7, lines 57-66; and Fig. 9], the cathode contact ring defining a fluid processing volume inside the ring and above the substrate surface (Fig. 5, raised position; and Fig. 6, lowered position); and

(c) applying a plating bias between the substrate plating surface and the anode to electroplate the metal onto the plating surface (col. 11, lines 31-35).

The cathode contact ring electrically contacts an annular portion of the periphery of the substrate and positions an annular seal **42** radially inward of the contact pins (col. 7, line 57 to col. 8, line 25; and Fig. 9).

The method further comprises rotating the substrate while flowing the plating solution onto the substrate plating surface (col. 5, line 55 to col. 6, line 4).

Flowing the plating solution comprises filling the fluid processing volume (= as the level of the fluid rises, the overflow is discharged through the openings **30**) [col. 11, lines 47-48].

Positioning the anode further comprises positioning the anode in electrical communication with the fluid processing volume (= the anode electrode **14** is made to reside in the containment region **28**) [col. 6, lines 38-42].

The method further comprises removing the cathode contact ring (= lowered position) and rinsing the substrate plating surface with a rinse agent (= DI water) [col. 11, lines 57-66; and Fig. 6].

The rinsing the substrate plating surface comprises spraying a rinse agent over the substrate plating surface while rotating the substrate support within (= the wafer **35** is usually spinning at a relatively high rpm to enhance rinsing and drying of the wafer **35**) [col. 11, line 66 to col. 12, line 6].

The method further comprises spin-drying the substrate (= the wafer **35** is usually spinning to enhance rinsing and drying of the wafer **35**) [col. 11, line 66 to col. 12, line 6].

The method further comprises supplying the plating solution **37** into a cavity ring **16** disposed above the anode (col. 7, lines 24-41; and Fig. 8].

Ting does not teach vibrating the substrate while flowing the electroplating solution between the anode and the substrate plating surface.

However, Wang teaches a method of plating a semiconductor wafer comprising vibrating (= oscillating the wafer in the x, y and z directions) the substrate while flowing the electroplating solution between the anode and the substrate plating surface (col. 18, lines 38-52; and Fig. 3B). Oscillation was done in combination with rotation in order to plate a better uniformity of film (col. 20, lines 14-21).

Thus, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Ting by vibrating the substrate while flowing the electroplating solution between the anode and the substrate plating surface because Ting teaches rotating ***or*** oscillating the wafer (col. 6, line 1-4). However, rotating ***and*** oscillating the wafer would have plated a better uniformity of film as taught by Wang (col. 18, lines 38-52; col. 20, lines 14-21; and Fig. 3B).

As to wherein the anode is consumed during the operation of the plating method, soluble anodes are conventionally used in the electroplating art for supplying metal plating ions. It would have been well within the skill of the artisan to have used a soluble anode in the electroplating method of Ting because insoluble anodes and soluble

anodes are functionally equivalent and is merely a matter of design choice because the design solves no stated problems and produces no unexpected results, absent evidence to the contrary. *In re Kuhle* 188 USPQ 7 (CCPA 1975).

As to wherein the method further comprises draining the rinse agent back to a rinse agent reservoir; and wherein the method further comprises purifying the rinse agent in a purifier, Ting teaches that the drain **23** is coupled to a container for containing the electrolyte or to *a waste treatment* component of the system. The delivery and removal of such chemicals and fluids to/from a processing chamber are known in the art (col. 10, line 65 to col. 11, line 4). Thus, it is well within the skill of the artisan to have recycled and regenerated the rinse agent for reuse.

As to vibrating the cavity ring while flowing the plating solution, it is well within the skill of the artisan to have vibrated the cavity ring **16** of Ting (Fig. 8) to uniformly distribute the fluid over the surface of the wafer **35**.

Furthermore, it is within the level of ordinary skill in the art to make a component movable. *In re Lindberg* 194 F 2d 732,93 USPQ 23 (CCPA 1952) and MPEP § 2144.04(V)(A).

Furthermore, Ting teaches that the sleeve **12** is made to rotate (or oscillate) when the wafer **35** is in the engaged position (col. 9, lines 46-48).

II. Claim **6** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ting et al.** (US Patent No. 6,017,437) in combination with **Wang** (US Patent No. 6,391,166 B1) as applied to claims 1-5, 7-8 and 10-18 above, and further in view of **JP 2-217428**.

Ting and Wang are as applied above and incorporated herein.

Ting does not teach wherein the plating solution flows through perforations in the anode.

However, the JP reference teaches electroplating a substrate plating surface faced up on a support with a perforated anode (abstract; and Fig. 2(a)).

Thus, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Ting with wherein the plating solution flows through perforations in the anode because the JP reference teaches that a solid anode (Fig. 1(a)) and a perforated anode (Fig. 2(a)) are functionally equivalent and is merely a matter of design choice because the design solves no stated problems and produces no unexpected results, absent evidence to the contrary. *In re Kuhle* 188 USPQ 7 (CCPA 1975).

Furthermore, Ting teaches a shaft **16** opening in the anode (col. 5, lines 39-41) and a plurality of openings **37** disposed along the outer wall of the shaft **16** (col. 7, lines 33-54; and Fig. 8).

III. Claims **19-22 and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ting et al.** (US Patent No. 6,017,437) in combination with **Griego** (US Patent No. 5,879,520).

Ting teaches a method for plating a metal onto a substrate plating surface, comprising:

(a) positioning the substrate plating surface face-up on a support member **13** (col. 5, lines 14-17; and Fig. 5);

(b) positioning the support member at a first vertical position in a processing cell (Fig. 5);

(c) flowing a plating solution **38** from an anode **14** to the substrate plating surface while rotating **17** the substrate plating surface at the first vertical position (= raised position) [col. 5, line 55 to col. 6, line 4; col. 6, lines 59-62; and Figs. 5 and 7];

(d) capturing the electroplating solution used in the plating process with a first fluid receiving member **23** (col. 10, line 65 to col. 11, line 4; and Fig. 5);

(e) positioning the support member at a second vertical position (= lowered position) in the cell, the second position being different from the first position (Fig. 6); and

(f) rinsing the substrate plating surface with a rinse agent at the second vertical position (col. 11, line 57 to col. 12, line 6).

The method further comprises spin-drying the substrate plating surface (= the wafer **35** is usually spinning at a relatively high rpm to enhance rinsing and drying of the

wafer **35**) [col. 11, line 66 to col. 12, line 6].

The method further comprises draining the plating solution to an plating solution reservoir (= the drain **23** is coupled to *a container for containing the electrolyte* or to a waste treatment component of the system) [col. 10, line 65 to col. 11, line 4].

The method further comprises (b) electrically contacting a cathode clamp ring **15** (= four electrodes spaced equidistantly *around* the bottom end of the sleeve **12**) to an annular portion of the periphery of the substrate plating surface (= one end to make contact with the edge of the wafer **35**) [col. 7, lines 57-66; and Fig. 9]; and applying a plating bias between the anode and the cathode clamp ring to plate a metal from the plating solution onto the substrate plating surface (col. 11, lines 31-35).

Ting does not teach capturing the rinsing solution with a second fluid receiving member.

However, Griego teaches that a drain port with multiple return drains provide a method to expose materials being plated to a multiple step chemical process without intermixing the chemistry. The chemical solutions are sequentially returned via the porous ring to the appropriate return drain for a discrete circulation of each chemical solution (col. 3, lines 41-52; and col. 4, lines 7-23).

Thus, the invention as a whole would have been obvious to one having ordinary

skill in the art at the time the invention was made to have modified the method of Ting by capturing the rinsing solution with a second fluid receiving member because this would have exposed materials being plated to a multiple step chemical process without intermixing the chemistry and would have sequentially returned the chemical solutions to the appropriate return drain for a discrete circulation of each chemical solution as taught by Wang (col. 3, lines 41-52; and col. 4, lines 7-23).

Furthermore, Ting teaches that the delivery and removal of chemicals and fluids to/from a processing chamber are known in the art (col. 10, line 65 to col. 11, line 4).

As to wherein the method further comprises draining the rinse agent to a rinse drain; and purifying the rinse agent, Ting teaches that the drain **23** is coupled to a container for containing the electrolyte or to *a waste treatment* component of the system. The delivery and removal of such chemicals and fluids to/from a processing chamber are known in the art (col. 10, line 65 to col. 11, line 4). Thus, it is well within the skill of the artisan to have recycled and regenerated the rinse agent for reuse.

IV. Claims **23 and 25-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ting et al.** (US Patent No. 6,017,437) in combination with **Griego** (US Patent No. 5,879,520).

Ting teaches a method for plating and rinsing a substrate in a processing cell, comprising:

(a) positioning the substrate face-up on a rotatable substrate support member **13** and positioning the substrate support member at a plating position in the cell (col. 5, lines 14-17; and Fig. 5);

(b) electrically contacting a plating surface of the substrate with a cathode electrode **15**;

(c) forming a fluid processing volume **28** (Fig. 7) above the plating surface;

(d) positioning an anode **14** in electrical communication with the processing volume;

(e) applying a plating bias (col. 11, lines 31-35) between the anode and the cathode electrode to plate a metal (col. 12, lines 8-14) from the fluid processing volume onto the plating surface in the plating position;

(f) capturing a plating solution used in the plating process with a first fluid receiving member **23** (col. 10, line 65 to col. 11, line 4; and Fig. 5);

(g) moving the substrate support member to a rinsing position (= lowered position) [col. 11, lines 57-66; and Fig. 6]; and

(g) dispensing a rinsing solution onto the plating surface while rotating the substrate (col. 11, line 59 to col. 12, line 6).

Electrically contacting the plating surface comprises positioning a cathode contact ring having a plurality of radially positioned substrate contact pins **15** positioned thereon such that the contact pins electrically engage an annular portion of the perimeter of the substrate (col. 7, line 57 to col. 8, line 7; and Fig. 9).

The method further comprises sealably engaging the perimeter of the plating surface with an annular seal **42** positioned radially inward of the contact pins (col. 8, lines 17-25; and Fig. 9).

Ting does not teach capturing the rinsing solution with a second fluid receiving member.

However, Griego teaches that a drain port with multiple return drains provide a method to expose materials being plated to a multiple step chemical process without intermixing the chemistry. The chemical solutions are sequentially returned via the porous ring to the appropriate return drain for a discrete circulation of each chemical solution (col. 3, lines 41-52; and col. 4, lines 7-23).

Thus, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Ting by capturing the rinsing solution with a second fluid receiving member because this would have exposed materials being plated to a multiple step chemical process without intermixing the chemistry and would have sequentially returned the chemical solutions to the appropriate return drain for a discrete circulation of each chemical solution as taught by Wang (col. 3, lines 41-52; and col. 4, lines 7-23).

Furthermore, Ting teaches that the delivery and removal of chemicals and fluids

to/from a processing chamber are known in the art (col. 10, line 65 to col. 11, line 4).

V. Claim **27** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ting et al.** (US Patent No. 6,017,437) in combination with **Griego** (US Patent No. 5,879,520) as applied to claims 23 and 25-26 above, and further in view of **JP 2-217428**.

Ting and Wang are as applied above and incorporated herein.

Ting does not teach flowing an electroplating solution through a plurality of perforations in the anode to fill the fluid processing volume.

However, the JP reference teaches electroplating a substrate plating surface faced up on a support with a perforated anode (abstract; and Fig. 2(a)).

Thus, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Ting by flowing an electroplating solution through a plurality of perforations in the anode to fill the fluid processing volume because the JP reference teaches that a solid anode (Fig. 1(a)) and a perforated anode (Fig. 2(a)) are functionally equivalent and is merely a matter of design choice because the design solves no stated problems and produces no unexpected results, absent evidence to the contrary. *In re Kuhle* 188 USPQ 7 (CCPA 1975).

Furthermore, Ting teaches a shaft **16** opening in the anode (col. 5, lines 39-41) and a plurality of openings **37** disposed along the outer wall of the shaft **16** (col. 7, lines 33-54; and Fig. 8).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edna Wong
Primary Examiner
Art Unit 1753

EW
May 12, 2005